

WHAT IS CLAIMED IS:

1. Muscle fatigue measuring equipment comprising:
myoelectric change acquiring means,
5 extracellular fluid change acquiring means, and
muscle fatigue status determining means,
wherein the myoelectric change acquiring means acquires a
myoelectric change of a living body,
the extracellular fluid change acquiring means acquires a
10 change in extracellular fluid of the living body, and
the muscle fatigue status determining means determines a muscle
fatigue status from the myoelectric change acquired in the
myoelectric change acquiring means and the change in
extracellular fluid acquired in the extracellular fluid change
15 acquiring means in accordance with criteria for determining a
muscle fatigue status based on a myoelectric change and a change
in extracellular fluid.

2. The equipment of claim 1, wherein the myoelectric
20 change acquiring means comprises:
myoelectric potential measuring means,
first storage means, and
myoelectric change computing means,
the myoelectric potential measuring means measures a
25 myoelectric potential occurring along with the movement of a
muscle of a living body so as to determine a myoelectric value,
the first storage means stores an arithmetic expression for
determining a myoelectric change and a myoelectric value at a

base time, and

the myoelectric change computing means computes a myoelectric change by substituting the myoelectric value determined by the myoelectric potential measuring means and the myoelectric value

5 stored in the first storage means into the arithmetic expression stored in the first storage means, and

the extracellular fluid change acquiring means comprises:

biological impedance measuring means,

second storage means, and

10 extracellular fluid change computing means,

the biological impedance measuring means provides an

alternating current to a living body and measures a voltage caused by a biological impedance so as to determine an extracellular fluid,

15 the second storage means stores an arithmetic expression for determining a change in extracellular fluid and an extracellular fluid at a base time, and

the extracellular fluid change computing means computes a change in extracellular fluid by substituting the extracellular

20 fluid determined by the biological impedance measuring means and the extracellular fluid stored in the second storage means into the arithmetic expression stored in the second storage means.

25 3. The equipment of claim 2, which has measuring electrodes serving both as communication ports to detect the myoelectric potential in the myoelectric potential measuring means and as communication ports to detect the voltage caused

by the biological impedance in the biological impedance measuring means and which also has a switching device that switches a signal of the myoelectric potential from the measuring electrodes and a signal of the voltage caused by the
5 biological impedance from one to another.

4. The equipment of claim 1, wherein the muscle fatigue status determining means determines a muscle fatigue status by a series of procedural steps, i.e., comparing a myoelectric
10 change acquired by the myoelectric change acquiring means with a reference value for determining whether the myoelectric change is a myoelectric change at a normal time or not so as to determine the presence or absence of muscle fatigue as the muscle fatigue status, comparing a change in extracellular
15 fluid acquired by the extracellular fluid change acquiring means with a reference value for determining whether the change in extracellular fluid is a change in extracellular fluid at a normal time or not so as to determine the equilibrium state of the muscle fatigue as the muscle fatigue status, and
20 comparing the change in extracellular fluid acquired by the extracellular fluid change acquiring means with a reference value for determining whether the change in extracellular fluid is larger or smaller than the change in extracellular fluid acquired last time so as to determine the progress of the muscle
25 fatigue as the muscle fatigue status.

5. The equipment of claim 2, wherein the muscle fatigue status determining means determines a muscle fatigue status by

a series of procedural steps, i.e., comparing a myoelectric change acquired by the myoelectric change acquiring means with a reference value for determining whether the myoelectric change is a myoelectric change at a normal time or not so as
5 to determine the presence or absence of muscle fatigue as the muscle fatigue status, comparing a change in extracellular fluid acquired by the extracellular fluid change acquiring means with a reference value for determining whether the change in extracellular fluid is a change in extracellular fluid at
10 a normal time or not so as to determine the equilibrium state of the muscle fatigue as the muscle fatigue status, and comparing the change in extracellular fluid acquired by the extracellular fluid change acquiring means with a reference value for determining whether the change in extracellular fluid
15 is larger or smaller than the change in extracellular fluid acquired last time so as to determine the progress of the muscle fatigue as the muscle fatigue status.

6. The equipment of claim 3, wherein the muscle fatigue
20 status determining means determines a muscle fatigue status by a series of procedural steps, i.e., comparing a myoelectric change acquired by the myoelectric change acquiring means with a reference value for determining whether the myoelectric change is a myoelectric change at a normal time or not so as
25 to determine the presence or absence of muscle fatigue as the muscle fatigue status, comparing a change in extracellular fluid acquired by the extracellular fluid change acquiring means with a reference value for determining whether the change

in extracellular fluid is a change in extracellular fluid at a normal time or not so as to determine the equilibrium state of the muscle fatigue as the muscle fatigue status, and comparing the change in extracellular fluid acquired by the
5 extracellular fluid change acquiring means with a reference value for determining whether the change in extracellular fluid is larger or smaller than the change in extracellular fluid acquired last time so as to determine the progress of the muscle fatigue as the muscle fatigue status.

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7. The equipment of claim 1, wherein the extracellular fluid is the ratio of an extracellular fluid to intracellular and extracellular fluids.

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8. The equipment of claim 2, wherein the extracellular fluid is the ratio of an extracellular fluid to intracellular and extracellular fluids.

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9. The equipment of claim 3, wherein the extracellular fluid is the ratio of an extracellular fluid to intracellular and extracellular fluids.

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10. The equipment of claim 4, wherein the extracellular fluid is the ratio of an extracellular fluid to intracellular and extracellular fluids.

11. The equipment of claim 5, wherein the extracellular fluid is the ratio of an extracellular fluid to intracellular

and extracellular fluids.

12. The equipment of claim 6, wherein the extracellular fluid is the ratio of an extracellular fluid to intracellular
5 and extracellular fluids.

13. The equipment of claim 1, wherein the extracellular fluid is an interstitial fluid.

10 14. The equipment of claim 2, wherein the extracellular fluid is an interstitial fluid.

15. The equipment of claim 3, wherein the extracellular fluid is an interstitial fluid.

15 16. The equipment of claim 4, wherein the extracellular fluid is an interstitial fluid.

20 17. The equipment of claim 5, wherein the extracellular fluid is an interstitial fluid.

18. The equipment of claim 6, wherein the extracellular fluid is an interstitial fluid.